

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (previously presented) A method of image compression and decompression comprising:
  - providing a span of interest for an acquired image sequence wherein the span of interest defines a time sequence and a space sequence in the acquired image sequence that includes analytically relevant information in the acquired image sequence and excludes other information in the acquired image sequence:
    - selecting a portion of the acquired image sequence in the span of interest, thereby selecting the analytically relevant information and sacrificing the other information.
    - applying lossless compression to the portion of the acquired image sequence and obtaining therefrom a compressed image sequence;
    - applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and
    - displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other information.
2. (previously presented) The method of claim 1, wherein the portion of the acquired image sequence is a plurality of frames in the span of interest.
3. (previously presented) The method of claim 1, wherein the portion of the acquired image sequence is at least one frame in the span of interest.
4. (previously presented) The method of claim 1 further comprising archiving the analytically relevant image sequence.
5. (previously presented) The method of claim 1, wherein selecting the portion of the acquired image sequence comprises using a user select option.
6. (original) The method of claim 5, wherein the user select option comprises segmenting an identifiable anatomy of a patient.
7. (original) The method of claim 5, wherein the user select option comprises manually marking frames of interest.

8. (original) The method of claim 5, wherein the user select option comprises sketch-gripping an image boundary.

9. (cancelled)

10. (cancelled)

11. (cancelled)

12. (previously presented) A method of image compression and decompression for images obtained by an imaging device, comprising:

providing a span of interest for an acquired image sequence received from the imaging device wherein the span of interest defines a time sequence and a space sequence in the acquired image sequence that includes analytically relevant information in the acquired image sequence and excludes other information in the acquired image sequence;

selecting a portion of the acquired image sequence in the span of interest, thereby selecting the analytically relevant information and sacrificing the other information;

applying lossless compression to the portion of the acquired image sequence and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom analytically relevant image sequence; and

displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other information.

13. (original) The method of claim 12, wherein the imaging device is a medical imaging device selected from a magnetic resonance imaging system, a computed tomography system, an x ray system, an x ray angiogram system and an ultrasound system.

14. (currently amended) A method of image compression and decompression for images obtained by an x ray device, comprising:

providing a span of interest for the images obtained by the x ray device, wherein the span of interest defines a time sequence and a space sequence that includes analytically relevant information in the images and excludes other information in the images, wherein the space sequence is defined by a collimator ring;

selecting at least one frame of interest in the span of interest, thereby selecting the analytically relevant information and sacrificing the other information;

applying lossless compression to the at least one frame of interest and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other information.

15. (previously presented) A method of image compression and decompression for images obtained by an x ray angiogram device, comprising:

providing a span of interest for the images obtained by the x ray angiogram device, wherein the span of interest defines a time sequence between two time instances that includes analytically relevant information in the images and excludes other information in the images;

selecting a plurality of frames of Interest in the span of interest, thereby selecting the analytically relevant information and sacrificing the other information;

applying lossless compression to the plurality of frames of interest and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other Information.

16. (previously presented) The method of claim 15, wherein the two time instances comprise a first time instance when a dye appears and second time instance when the dye disappears.

17. (previously presented) A method of image compression and decompression for images obtained by an MRI device, comprising:

providing a span of interest for the images obtained by the MRI device, wherein the span of interest defines a time sequence between two time instances that includes analytically relevant information in the images and excludes other Information in the images;

selecting a plurality of frames of interest in the span of interest, thereby selecting the analytically relevant information and sacrificing the other information;

applying lossless compression to the plurality of frames of interest and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other information.

18. (previously presented) The method of claim 17, wherein selecting the plurality of frames of interest comprises using a user select option for manually selecting the plurality of frames of interest in a space sequence.

19. (previously presented) The method of claim 17, wherein selecting the plurality of frames of interest comprises using automatic edge detection techniques for selecting the plurality of frames of interest in a space sequence.

20. (previously presented) A method of Image compression and decompression for images obtained by an ultrasound device, comprising:

providing a span of interest for the images obtained by the ultrasound device, wherein the span of interest defines a time sequence and a space sequence that includes analytically relevant information in the images and excludes other information in the images;

selecting at least one frame of interest in the span of interest, thereby selecting the analytically relevant information and sacrificing the other information;

applying lossless compression to the least one frame of interest and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other information.

21. (original) The method of claim 20, wherein selecting the at least one frame of interest comprises selecting a fan shaped image using automatic means.

22. (original) The method of claim 20, wherein selecting the at least one frame of interest comprises selecting a fan shaped image using manual means.

23. (previously presented) A method of image compression and decompression comprising;

providing a span of Interest for an acquired image sequence, wherein the span of Interest defines a time sequence and a space sequence in the acquired image sequence that includes analytically relevant information in the acquired image sequence and excludes other information in the acquired image sequence;

selecting a portion of the acquired image sequence in the span of interest, thereby selecting the analytically relevant information and sacrificing the other information;

applying lossy compression to the portion of the acquired image sequence and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other information.

24. (previously presented) An imaging system comprising:

a span of interest definer block for selecting a portion of an image sequence in a span of interest for the image sequence, wherein the span of interest defines a time sequence and a space sequence in the image sequence that Includes analytically relevant information in the image sequence and excludes other information in the image sequence, thereby selecting the analytically relevant information and sacrificing the other information;

an image compression block for compressing the portion of the image sequence;

an image decompression block for decompressing and reconstructing the compressed image sequence; and

a display for displaying the reconstructed image sequence, thereby displaying the analytically relevant information without displaying the other information.

25. (previously presented) The imaging system of claim 24, wherein the portion of the image sequence is at least one frame in the span of interest.

26. (previously presented) The imaging system of claim 24, wherein the portion of the image sequence is a plurality of frames in the span of interest.

27. (cancelled)

28. (cancelled)

29. (cancelled)

30. (cancelled)

31. (previously presented) A computer program encoded on a machine readable medium comprising an algorithm for:

- selecting a portion of an acquired image sequence in a span of interest for the acquired image sequence, wherein the span of interest defines a time sequence and a space sequence in the acquired image sequence that includes analytically relevant information in the acquired image sequence and excludes other information in the acquired image sequence, and selecting the portion of the acquired image sequence selects the analytically relevant information and sacrifices the other information;

- applying lossless compression to the portion of the acquired image sequence and obtaining therefrom a compressed image sequence;

- applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence: and

- displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other information.

32. (currently amended) A method of image compression and decompression in an x ray angiogram device, wherein the span of interest defines a time sequence and a space sequence in the acquired image sequence, that includes analytically relevant information in the acquired image sequence and excludes other information in the acquired image sequence, wherein the space sequence is defined by a collimator ring, and wherein the time sequence is based on a dye that is injected and tracked within a subject and increases visibility of blood vessels against surrounding tissues in the acquired image sequence;

- selecting a portion of the acquired image sequence in the span of interest, thereby selecting the analytically relevant information and sacrificing the other information;

- applying lossless compression to the portion of the acquired image sequence and obtaining therefrom a compressed image sequence;

- applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

- displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other information.

33. (previously presented) The method of claim 32, wherein the time sequence begins when the dye appears in the acquired image sequence and the time sequence ends when the dye disappears in the acquired image sequence.

34. (cancelled)

35. (previously presented) The method of claim 32, wherein the space sequence is defined by a binary mask.

36. (Currently amended) The method of claim 32, wherein the portion of the acquired image sequence is confined within a ~~comparatively small~~ time and space of corresponding to a predefined portion of the acquired image sequence.

37. (previously presented) The method of claim 32, wherein the portion of the acquired image sequence is provided by frames of interest, the acquired image sequence is provided by total frames, and a ratio of the frames of Interest to the total frames is in the range of 46.83 to 76.47 percent.

38. (previously presented) The method of claim 32, wherein a compression ratio for the portion of the acquired image sequence has an improvement over a compression ratio for the acquired image sequence in the range of 13.15 to 16.96 percent